

Notice of Allowability

Application No.

09/686,624

Applicant(s)

LEE ET AL.

Examiner

Khiem D Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08-22-2003.
2. ☒ The allowed claim(s) is/are 23-28.
3. ☒ The drawings filed on 12 October 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |



DETAILED ACTION

Allowable Subject Matter

Claims 23-28 are allowed.

Reasons For Allowance

The following is a statement of reasons for the indication of allowable subject matter: The prior art taken alone or in combination neither discloses nor makes obvious the instant process of claims as a whole. Specifically, the prior art of record, Imamura et al. (U.S. Patent 5, 738, 911) disclose that the silicon oxide layer (SiO_2) is formed by baking a spin-on glass (SOG) composition containing perhydropolysilazane having the compound formula $-(\text{SiH}_2\text{NH})_n-$ (n represents a positive integer) in an air atmosphere consisting of oxygen wherein the baking of the perhydropolysilazane is conducted by heating at a temperature ranging from 250°C to 500°C for a time ranging from 0.5 to 3 hours (col. 3, lines 5-34) and Tanaka et al. (U.S. Patent 5, 974, 666) disclose that perhydropolysilazane is heated at 150°C for a period of time under an oxygen atmosphere to produced silicon oxide layer wherein perhydropolysilazane having a weight averaged molecular weight of 4,000 to 5000 (col. 6, lines 51-63 and col. 12, lines 16-24) but fail to disclose or suggest Applicant's steps of curing the SOG layer by pre-baking the SOG layer at a temperature within the range of from about 100 to about 500°C for a first period of time, and main-baking the SOG layer at a temperature within the range of about 900 to about 1000°C for a second period of time, as recited in the pending independent claim 23 (lines 16-20), claim 25 (lines 15-19), and claim 27 (lines 16-20). Additionally, the prior art of record, Shibuya et al. (U.S. Patent 6, 338, 868) disclose

coating the surface of a substrate with a spin-on glass (SOG) composition containing polysilazane compound having the molecular weight dispersion not exceeding 4 (col. 3, line 50 to col. 4, line 8) but also fail to disclose or suggest the Applicant's steps as described above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9179 for regular communications and (703) 746-9179 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.N.
September 26, 2003


William Chen
Supervisory Patent Examiner
Art Unit 2823